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Claims

1-6. (Cancelled)

7. (Currently Amended) A motor comprising:
a stator assembly forming a cavity; and
a rotor assembly including at least two members formed of dissimilar materials operatively mounted for rotation within the cavity; ~~the rotor assembly having~~
a rotatable joint assembly connecting the at least two members together
~~bonded to one another and of formed of dissimilar materials, wherein the joint assembly~~
~~has along securing surfaces that are configured to essentially eliminate substantially free~~
~~of singularity points along a joint of the joint assembly.~~

8. (Currently Amended) The motor of claim 7, wherein the two materials are bonded with an adhesive.

9. (Cancelled)

10. (Currently Amended) The motor of claim 7, wherein one of said ~~the at least two~~ members is exposed to a first temperature and another of said ~~the at least two~~ members is exposed to a second temperature different from the first temperature and, wherein the dissimilar materials and joint assembly ~~providing~~ thermal insulation between the first and second temperatures.

11. (Previously Presented) The motor of claim 10, further comprising a refrigeration system providing a cooling agent to the rotor assembly to maintain rotor windings of the rotor assembly at a cryogenic temperature.

12. (Previously Presented) The motor of claim 7, further comprising a vacuum jacket surrounding the rotor assembly to form a vacuum chamber therewithin that assists in thermally insulating the rotor windings.

13. (Previously Presented) The motor of claim 7, wherein the rotor assembly has a second joint assembly of similar construction to the joint assembly, the joint assembly and second joint assembly being positioned on opposite ends of the rotor assembly.

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14. (Currently Amended) The motor of claim 7, wherein one of the dissimilar materials is a thermal insulator and the other material is a metal.

15. (Currently Amended) The motor of claim 7, wherein one of the at least two members is formed of a composite material and is adhesively bonded to another of the other at least two members.

16. (Previously Presented) The motor of claim 7, wherein the joint assembly is includes a torque tube having and wherein a first of the at least two members includes a tubular member formed of first material adhesively bonded to first and second couplers formed of a second material.

17. (Currently Amended) A superconducting motor comprising:
a stator assembly having stator windings forming a stator cavity; and
a rotor assembly having rotor windings; ~~the~~
~~a rotor assembly operatively mounted to rotate within the stator cavity, the~~
~~rotor assembly including bonded joint assembly co-axially connecting members formed~~
~~of dissimilar materials aligned along a common rotational axis, wherein a first of the~~
~~members includes a first surface and a second of the members includes a second~~
~~surface, one of said members exposed to a first temperature, another of said members~~
~~exposed to a second temperature different from the first temperature which has been~~
~~cooled; and~~
wherein the joint assembly has a bond joining the first surface and the
second surface together to join the first member and the second member and securing
surfaces that are configured to essentially eliminating singularity points along a joint of
the joint assembly bond.

18. (Cancelled)

19. (Previously Presented) The superconducting motor of claim 17, further comprising a refrigeration system providing a cooling agent to the rotor assembly to maintain the rotor windings at a cold temperature.

20. (Currently Amended) The superconducting motor of claim 17, wherein ~~the~~
further comprising a joint assembly is forming a torque tube having a tubular including
the first and the second members formed of first material adhesively bonded together
first and second couplers formed of a second material.

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21. (Currently Amended) The superconducting motor of claim 17, wherein the dissimilar materials are bonded with an adhesive.

22. (Previously Presented) The superconducting motor of claim 17, further comprising a vacuum jacket surrounding the rotor assembly to form a vacuum chamber therewithin that assists in thermally insulating the rotor windings.

23. (Canceled)

24. (Currently Amended) The superconducting motor of claim 17, wherein one of the dissimilar materials is include a thermal insulator and ~~the other material is a metal.~~

25. (Currently Amended) The superconducting motor of claim 24, wherein the thermal insulator is formed of a composite material and is adhesively bonded to the ~~other member~~ metal.

26. (Currently Amended) A superconducting motor comprising:
a stator forming a cavity;
a rotor having windings mounted for rotation within the cavity;
a vacuum jacket encapsulating the rotor and forming a vacuum region therewithin; ~~the rotor having a shaft end, the shaft end including~~
a bonded joint assembly forming a shaft end of the rotor and providing thermal isolation for the windings; and
wherein the joint assembly includes securing surfaces that are bonded together to form a joint that is ~~has securing surfaces that are configured to essentially eliminate substantially free of singularity points along a joint of the joint assembly.~~

27. (Currently Amended) The superconducting motor of claim 26, wherein the joint assembly includes at least two members presenting the securing surfaces and formed of dissimilar material adhesively bonded together along the joint.

28. (Cancelled)

29. (Currently Amended) The superconducting motor of claim 27, wherein the rotor has a second joint assembly of similar construction to the joint assembly and,

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wherein the joint assembly and second joint assembly being is positioned on opposite at
an ends of the rotor substantially opposite to the joint assembly forming the shaft end.

30. (Currently Amended) The superconducting motor of claim 27, wherein the joint assembly is a torque tube having a tubular member formed of a first material adhesively bonded to first and second couplers formed of a second material.